## Panel: Impediments to Commercialization

#### Vendors

- Dean Brenner, Qualcomm
- Jake MacLeod, Telecommunications Industry Association

#### Operators

- Stacey Black, AT&T
- Steve Sharkey, T-Mobile
- Scott Bergmann, CTIA (for Chris Guttman-McCabe)

#### Users

- Brett Kilbourne, Utilities Telecom Council
- Mark Cooper, Consumer Federation of America

## Charge to the panel members

- Key impediments to commercialization / wide use?
- Of what?
  - spectrum sharing
  - dynamic spectrum access
- licensed shared access
- other efficient approaches
- 5 minutes, just give the bullet points. Anything is fair game:
  - Commercial
  - Technical
  - Policy

- Regulatory
- Standardization
- Economic issues

- 1. Why is 2-tiered sharing model better than 3-tiered sharing model?
- 2. Would it help deployment if carriers were regulated as a (monopoly) utility?
- 3. Are the devices driving the network buildout towards sharing?
- 4. Why is the appropriate model for sharing "as close as possible to exclusive licensed" rather than "as close as possible to unlicensed"?

- 5. What in the current rules prevent a licensee from developing a small cell offload network?
- 6. Can we come up with other efficiency metrics that value the special features of decentralized networks

  such as ability to access in a highly congested situation as opposed to networks with central operator control.
- 7. What can the cellular industry do to support sharing themselves? Or support sharing by DOD users who face adversaries?

1. A cellular network is a shared system. WiFi is shared spectrum.

Vendors/Operators: What are you doing to improve access certainty for users who need guarantees?

Users: What are you doing to get the guarantees you need?

All: What lessons will help improve future sharing?

2. What enforcement mechanisms are needed to support future spectrum sharing?

Legal, technical, trusted third parties, measurement standards, ...?